

## **REMARKS**

Further and favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

### **Claim Amendments**

Claim 1 has been amended to correctly format the deletion of Formula [I] in compliance with 37 C.F.R. §1.121, as requested by the Examiner at the top of page 4 of the Office Action.

### **Objection to the Specification**

Referring to the objection of the specification on page 3 of the Official Action, the Examiner has indicated that several phrases in the present specification are unclear in their meaning. Specifically, it appears that the Examiner does not understand the meaning of the term “hand” in the specification.

“Hand” is a technical term used in the textile industry. The term is known in the art to have a similar meaning to “feeling” or “texture”. See definition 11c of Attachment 1 (“hand”, Merriam-Webster, retrieved February 11, 2011, <http://www.merriam-webster.com/dictionary/hand>) and definition 20 of Attachment 2 (“hand”, MSN Encarta, retrieved February 11, 2011, [http://encarta.msn.com/dictionary\\_1861616365/hand.html](http://encarta.msn.com/dictionary_1861616365/hand.html)). Accordingly, a person having ordinary skill in the art would readily understand the term “hand” as it is used in the present specification.

### **Patentability Arguments**

The patentability of the present invention over the disclosures of the references relied upon by the Examiner in rejecting the claims will be apparent upon consideration of the following remarks.

### **Rejections Under 35 U.S.C. § 103(a)**

Claims 1, 2, 7 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakashima et al. (US 7,273,501) in view of Nomura et al. (JP 08-060547). Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakashima in view of Nomura, and further in view of Hirose et al. (JP 2002-013071).

These rejections are respectfully traversed.

(1) Claims 1, 2, 7 and 8:

The Examiner argued that it would have been obvious for those skilled in the art to modify the fibrous structure of Nakashima to include sericin as taught by Nomura, in order to further enhance its moisture conditioning properties. However, this position is incorrect.

Nakashima aims to provide an acrylic acid type moisture absorptive and desorptive fibrous structure, which is highly white, is superior in whiteness stability, and exhibits high moisture absorptive and desorptive properties (specifically, having a saturated index of moisture absorption of 10% by weight or more at 20°C, and 65% RH). See Abstract of Nakashima.

On the other hand, the invention of Nomura consists of supplementing the water-retaining function of the horny layer of the skin by providing a fiber product to which a serine-containing protein such as sericin is applied. See Abstract of Nomura. Nomura fails to teach or suggest the moisture absorptive property **of the fiber** itself. Thus, Nomura naturally fails to teach or suggest that the moisture absorptive property of the fiber itself is improved by applying a serine-containing protein, such as sericin, to the fiber. Thus, Nomura merely discloses an improvement to the water-retaining function of the horny layer of skin, and not an improvement to the moisture absorptive property of a fiber.

Thus, Nomura fails to teach or suggest an improvement to the moisture absorptive property of the fiber itself and the Examiner's argument that it would have been obvious to combine Nakashima with Nomura "in order to further enhance [the fiber's] moisture conditioning properties" cannot be properly based on the disclosure of Nomura.

Further, Nakashima discloses that "[w]hen an acid treatment is carried out after the reducing treatment as such, carboxyl group of a salt type in the moisture absorptive and desorptive fiber of an acrylic acid type is changed to carboxylic acid (carboxyl group) and this may lower the functions of the fibrous structure such as moisture absorptive and desorptive properties, heat generating properties by absorbing moisture and pH buffering ability". See column 5, lines 36-43. That is, Nakashima suggests that the moisture absorptive and desorptive properties of a fiber are lowered by decreasing the amount of the carboxyl groups of a salt type.

Thus, if a protein is applied to the fibrous structure of Nakashima as proposed by the Examiner, ionic bonds are formed between the carboxyl groups and the protein. As a result, the amount of the carboxyl groups of a salt type will decrease. Those skilled in the art would easily expect that this decrease will lower the moisture absorptive and desorptive properties of the fiber, when considering the teachings of Nakashima. Further, it is known that a fiber having lowered moisture absorptive and desorptive properties is inferior in moisture conditioning properties.

Therefore, Nakashima **teaches away** from the combination proposed by the Examiner. MPEP 2143.01 teaches that a prior art disclosure teaches away when it criticizes, discredits, or otherwise discourages the solution claimed. Here, Nakashima clearly discourages from decreasing the amount of carboxyl groups of a salt type, because such decrease would lower the moisture absorptive and desorptive properties of the fiber. Accordingly, Nakashima clearly teaches away from the combination suggested by the Examiner, and those skilled in the art would have expected that applying a protein to the fibrous structure of Nakashima would lead to a result that is **totally opposite** to the result mentioned by the Examiner. Consequently, the Examiner's reasoning is incorrect and a person having ordinary skill in the art would have never combined the teachings of Nakashima with Nomura since Nakashima teaches away from such combination.

Further, lowering the moisture absorptive and desorptive properties of a fiber is not in line with the objective of Nakashima, i.e., to provide a moisture absorptive and desorptive fibrous structure of an acrylic acid type, which exhibits high moisture absorptive and desorptive properties. Based on the above, it is clear that a person of ordinary skill in the art would have lacked motivation to combine Nakashima with Nomura.

Thus, the invention of claims 1, 2, 7 and 8 is not obvious over the combination of Nakashima and Nomura, and this rejection should be withdrawn.

(2) Claim 6:

The Examiner argued that it would have been obvious for those skilled in the art to modify the fibrous structure of Nakashima to include arginine as taught by Hirose instead of

sericin as taught by Nomura, since Hirose teaches that arginine has the same moisture retaining properties as serine.

However, as explained above, a person of ordinary skill in the art would not have combined the fiber of Nakashima with the sericin disclosed in Nomura since such a combination would be expected to yield a fiber with inferior moisture conditioning properties. This line of argument is equally applicable to the teachings of Hirose, i.e., those skilled in the art would have expected the incorporation of arginine to the fibrous structure of Nakashima to lower the moisture absorptive and desorptive properties of the fiber of Nakashima.

Therefore, a person of ordinary skill in the art would not have combined the teachings of Nakashima with the teachings of Nomura and Hirose. Thus, the invention of claim 6 is not obvious over the combination of Nakashima, Nomura and Hirose, and this rejection should be withdrawn.

### Conclusion

Therefore, in view of the foregoing amendments and remarks, it is submitted that each of the grounds rejection set forth by the Examiner has been overcome, and that the application is in condition for allowance. Such allowance is solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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/Chao Gao/

By 2011.02.25 15:07:04 -05'00'

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February 25, 2011